

Supplementary Tables

Supplementary Table 1. Longest tumor dimension (Median and Range) for various volume categories

Volume Category (cc)	Longest tumor dimension (mm), Median	Interquartile range
<1.0	14	12 to 16
1.1 to 2.0	18	15 to 20
2.1 to 4.0	22	20 to 25
4.1 to 8.0	26	25 to 28
8.1 to 16.0	34	30 to 39
>16.0	48	42 to 59

Supplementary Table 2. Cohort A: Baseline characteristics of Olmsted County patients (cases and controls) during the period of glycemic silence (60 to 36 months prior to index date)

Characteristics	Cases (n=219)	Controls (n=440)	P-value
Age, mean (\pm SD)	71.2 (\pm 13.1)	71.8 (\pm 13)	.97
Gender, Male	112 (51%)	224 (51%)	.98
Body Mass Index, mean (\pm SD)	28.7 (\pm 0.52)	28.6 (\pm 0.54)	.97
Race, White	187/200 (94%)	356/371 (96%)	.20
Glycemic status			.82
FBG <100 mg/dl	52/148 (35%)	118/304 (39%)	
FBG 110-125 mg/dl	76/148 (51%)	148 (49%)	
FBG >125 mg/dl	20/148 (13%)	38 (12%)	
Physician diagnosed DM	19 (9%)	51 (12%)	.24
Mean FBG of DM patients	145 (\pm 45)	142 (\pm 14)	.64
Family History of DM	78/200 (39%)	124/371 (33%)	.07
Family History of pancreatic cancer	5/77 (6%)	4/192 (2%)	.08

Abbreviations: DM, diabetes mellitus; FBG, fasting blood glucose

Supplementary Table 3. Cohort A: Mean FBG at various time intervals in PDAC and Controls (Figure 1)

Time (months from index date)	60 to 54	54 to 48	48 to 42	42 to 36	36 to 30	30 to 24	24 to 18	18 to 12	12 to 6	6 to 0
Cases (n=219)										
Total, N	81	72	60	61	68	71	69	90	88	159
Mean FBG (mg/dl)	103	104	105	106	112	114	115	118	127	134
SEM	1.8	2.1	1.8	2.1	2.5	2.7	2.6	2.5	3.9	3.1
Standard deviation	16	15.3	12.1	20	26	30.7	24.8	30.3	48.1	46.9
95% CI	100,107	101,108	102,109	102,112	105,118	107,122	109,121	111,124	116,137	127,142
Controls (n=440)										
Total, N	106	122	99	125	116	128	86	123	93	123
Mean FBG (mg/dl)	103	105	104	105	104	105	106	106	106	108
SEM	1.6	1.5	1.5	1.9	1.9	2.1	2.5	2.2	3.8	3.5
Standard deviation	16.8	18.5	15.7	14.3	17	17.6	20.2	19.2	20.2	26.1
95% CI	100,107	102,108	101,107	103,108	100,107	103,109	102,111	102,109	102,111	103,112
P-value	0.91	0.70	0.57	0.62	0.01	0.009	0.02	<.001	<.001	<.001

Abbreviations: CI, confidence interval; FBG, fasting blood glucose; SEM, standard error of mean

Supplementary Table 4. Cohort B: Mean FBG at various tumor volumes of resected pancreatic cancer and Controls (Figure 2)

Tumor Volume (cc)	V1	V2	V3	V4	V5	V6	V7
	<0.5	0.5-1.0	1.1-2.0	2.1-4.0	4.1-8.0	8.1-16.0	>16.0
Cases (n=526)							
Total, N	12	25	57	94	124	75	80
Mean FBG (mg/dl)	99	109	119	124	129	132	146
SEM	5.5	4.1	3.4	3.9	3.2	4.3	4.5
Standard deviation	16.3	18.5	35.7	36.2	45.2	47.4	56.6
95% CI	89,109	99,116	116,129	116,131	124,137	124,141	138,155
Controls (n=1023)							
Total, N	24	51	137	232	305	109	165
Mean FBG (mg/dl)	105	108	110	110	112	109	111
SEM	3.9	3.0	2.2	2.4	2.1	2.8	3.1
Standard deviation	20.6	23.1	22.5	39.6	32.3	32.6	29.7
95% CI	97,114	106,117	104,113	105,116	108,116	104,115	105,118
P-value	0.35	0.88	0.03	0.001	<.001	<.001	<.001

Abbreviations: CI, confidence interval; FBG, fasting blood glucose; SEM, standard error of mean

Supplementary Table 5. Cohort C: Mean FBG at various time intervals in resected pancreatic cancer stratified by tumor volume and corresponding Controls (Figure 4)

Volume/Time	48 to 36	36 to 24	24 to 12	12 to 0
Large (>16.0 cc) (n=103)				
Total, N	15	15	16	20
Mean FBG (mg/dl)	106	111	119	149
SEM	3.5	3.5	3.4	5.5
Standard deviation	13	13	25	47
95% CI	93,119	96,123	106,132	139,162
P-value*	0.20	0.05	<.001	<.001
Medium (8 to 16 cc) (n=103)				
Total, N	11	11	18	31
Mean FBG (mg/dl)	104	108	112	132
SEM	4.0	4.6	4.0	5.3
Standard deviation	14	19	22	30
95% CI	90,119	95,121	101,124	123,140
P-value*	0.80	0.29	0.06	<.001
Small (<8 cc) (n=103)				
Total, N	26	27	34	40
Mean FBG (mg/dl)	106	108	108	128
SEM	2.8	3.1	2.9	4.5
Standard deviation	22	22	19	42
95% CI	95,118	97,119	98,118	121,139
P-value*	0.33	0.12	0.18	<.001
Controls (n=440)				
Total, N	214	235	202	214
Mean FBG (mg/dl)	103	103	104	107
SEM	1.0	1.0	1.2	1.9
Standard deviation	13	15.5	17	25
95% CI	101,105	101,106	101,107	104,110

*P-value compared to controls. Abbreviations: CI, confidence interval; FBG, fasting blood glucose; SEM, standard error of mean

Supplementary Table 6. Pre- and post-operative mean fasting blood glucose (FBG) in population-based resected pancreatic cancer cases by tumor location and type of surgical resection (Figure 5)

Description	Pre-operative mean FBG (\pm SD)	Post-operative mean FBG (\pm SD)	P-value
All pancreatic cancer	134 (\pm 41)	111 (\pm 19)	<.001
Tumor location			
Head	135 (\pm 44)	110 (\pm 19)	<.001
Body/Tail	131 (\pm 32)	114 (\pm 14)	.04
Type of surgery			
Whipple	133 (\pm 38)	108 (\pm 15)	<.001
Distal	129 (\pm 35)	112 (\pm 13)	.04

Abbreviations: FBG, fasting blood glucose; SD, standard deviation

Supplementary Table 7. Temporal glycemic profile of population-based controls and pancreatic cancer after excluding subjects with diabetes at baseline (60 to 54 months) in Cohort A (Figure 6A)

Time (months)	60 to 54	54 to 48	48 to 42	42 to 36	36 to 30	30 to 24	24 to 18	18 to 12	12 to 6	6 to 0
Cases (n=)										
Total, N	71	62	38	38	49	47	45	67	58	103
Mean FBG (mg/dl)	99	100	102	101	108	108	112	114	118	131
SEM	1.2	1.2	1.6	1.4	2.8	2.1	3.4	2.7	3.4	3.7
Standard deviation	11	10	10	10	25	18	31	27	34	55
95% CI	92,106	92,107	93,112	91,111	100,117	99,117	103,121	106,121	110,126	128,140
Controls (n=)										
Total, N	93	103	87	107	104	110	75	112	86	111
Mean FBG (mg/dl)	99	99	100	101	101	102	103	104	105	105
SEM	1.1	0.9	1.0	0.8	1.9	1.4	2.6	2.1	2.8	3.5
Standard deviation	11	10	10	9	15	13	16	18	19	24
95% CI	96,102	96,102	97,103	98,104	99,105	99,105	99,106	101,107	101,108	102,108
P-value	0.94	0.77	0.15	0.92	0.04	0.02	0.03	0.004	0.002	<.001

Abbreviations: CI, confidence interval; FBG, fasting blood glucose; SEM, standard error of mean

Supplementary Table 8. Temporal glycemic profile of population-based controls and large resected (>16.0 cc), intermediate and small resected (<16.0 cc) and un-resected pancreatic cancer subjects up to 48 months before index date (Figure 6B)

Volume/Time	36 to 48	24 to 36	12 to 24	0 to 12
Large resected (>16.0 cc)				
Total, N	15	15	16	20
Mean FBG (mg/dl)	106	111	119	149
SEM	3.5	3.5	3.4	5.5
Standard deviation	13	13	25	47
95% CI	93,119	96,123	106,132	139,162
P-value*	0.20	0.05	<.001	<.001
Un-resected				
Total, N	75	81	84	98
Mean FBG (mg/dl)	106	113	114	140
SEM	2.7	3.6	2.7	6.2
Standard deviation	27	32	24	61
95% CI	101,111	106,120	109,119	128,152
P-value*	0.36	0.03	0.01	<.001
Intermediate and small resected (<16.0 cc)				
Total, N	40	41	48	65
Mean FBG (mg/dl)	105	108	110	126
SEM	3.1	3.2	2.9	4.5
Standard deviation	19	20	20	37
95% CI	100,109	103,113	101,119	118,134
P-value*	0.54	0.09	0.03	<.001
Controls				
Total, N	214	235	202	214
Mean FBG (mg/dl)	103	103	104	107
SEM	1.0	1.0	1.2	1.9
Standard deviation	13	15.5	17	25
95% CI	101,105	101,106	101,107	104,110

*P-value compared to controls. Abbreviations: CI, confidence interval; FBG, fasting blood glucose; SEM, standard error of mean